

Assignment -2
Internet of Things

Assignment Date	27September 2022
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Maximum Marks	2 Marks

Question-1:

Build a python code, assume you get temperature and humidity values (generated with random function to a variable) and write a condition to continuously detect alarm in case of high temperature.

Solution:

```
import random
import time
while True:
    temperature = random.randint(-15,100)
    humidity = random.randint(1,100)
    print(f"Checking Temperature: {temperature}°C")
    print(f"Checking Humidity: {humidity}%")
    f = (temperature * 1.8 ) +32
    print("Temperature in Fahrenheit is:",f)
```

#Humidity Measurement

```
if humidity >= 100:
    print(f"{humidity}% it is a Humid humidity level")
elif 65<humidity<100 :
    print(f"{humidity}% it is a Perfect humidity level")
else :
    print(f"{humidity}% it is a Dry humidity level")
```

#Temperature Measurement

```
if temperature >=37:
    print(f"{temperature}°C is a Hot Temperature\n Alarm is activated \n
Notification is Notified")
elif temperature==37:
    print(f"{temperature}°C is a Normal Temperature")
else:
    print(f"{temperature}°C is a Cold Temperature")
    print(' Humidity level & Temperature level is Monitored and Saved.\n')
    time.sleep(5)
```

Output:

```
tem@hum.py - C:\Users\jalban\AppData\Local\Programs\Python\Python310\tem@hum.py (3.10.7)
File Edit Format Run Options Window Help
import random
import time
while True:
    temperature = random.randint(-15,100)
    humidity = random.randint(1,100)
    print("Checking Temperature: {}{}C".format(temperature))
    print("Checking Humidity: {}%".format(humidity))
    f = (temperature * 1.8 ) +32
    print("Temperature in Fahrenheit is:",f)

#Humidity Measurement

if humidity >= 100:
    print("Humidity is 100% it is a Humid humidity level")
elif 65<humidity<100 :
    print("Humidity is 65% it is a Prefect humidity level")
else :
    print("Humidity is 55% it is a Dry humidity level")

#Temperature Measurement

if temperature >=37:
    print("Temperature is 37{}C is a Hot Temperature\n Alarm is activated \n Notification is Notified")
elif temperature==37:
    print("Temperature is 37{}C is a Normal Temperature")
else:
    print("Temperature is {}{}C is a Cold Temperature")
print('Humidity level & Temperature level is Monitored and Saved.\n')
time.sleep(5)
```

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```
tem@hum.py - C:\Users\jalban\AppData\Local\Programs\Python\Python310\tem@hum.py (3.10.7)
File Edit Format Run Options Window Help
import random
import time
while True:
    temperature : >>>
    >>> == RESTART: C:\Users\jalban\AppData\Local\Programs\Python\Python310\tem@hum.py =
    Checking Temperature: 19°C
    Checking Humidity: 88%
    Temperature in Fahrenheit is: 66.2
    88% it is a Prefect humidity level
    Checking Temperature: 62°C
    Checking Humidity: 51%
    Temperature in Fahrenheit is: 143.60000000000002
    51% it is a Dry humidity level
    62°C is a Hot Temperature
    Alarm is activated
    Notification is Notified
    Checking Temperature: 91°C
    Checking Humidity: 65%
    Temperature in Fahrenheit is: 195.8
    65% it is a Dry humidity level
    91°C is a Hot Temperature
    Alarm is activated
    Notification is Notified
    Checking Temperature: 16°C
    Checking Humidity: 44%
    Temperature in Fahrenheit is: 60.8
    44% it is a Dry humidity level
    Checking Temperature: -1°C
    Checking Humidity: 72%
    Temperature in Fahrenheit is: 30.2
    72% it is a Prefect humidity level
    Checking Temperature: 87°C
    Checking Humidity: 65%
    Temperature in Fahrenheit is: 188.6
    65% it is a Dry humidity level
    87°C is a Hot Temperature
    Alarm is activated
    Notification is Notified
    Checking Temperature: 70°C
    Checking Humidity: 69%
    Temperature in Fahrenheit is: 158.0
    69% it is a Prefect humidity level
```

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